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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,756	10/31/2003	Alan Shibata	200206094-1	1819

22879 7590 08/09/2007

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EXAMINER

WILLS, MONIQUE M

ART UNIT	PAPER NUMBER
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1745

MAIL DATE	DELIVERY MODE
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08/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/698,756	Applicant(s) SHIBATA ET AL.	
	Examiner Monique M. Wills	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-38 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-38 and 47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/31/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group II claims 12-38 & 47 in the reply filed on October 10, 2006 is acknowledged. The species restriction of April 19, 2007, with respect to claims 8, 32, 15, 26, 27 & 42 is withdrawn. An action on pending claims 12-38 & 47 is as follows:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gidaspow et al. U.S. Patent 3,823,038.

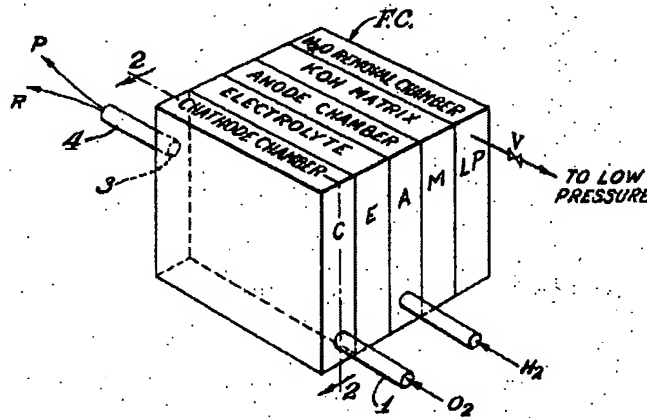


Figure 1

With respect to **claim 13**, the electrode is an anode or a cathode. See Figure 1. With respect to **claims 14-15**, the metal is stainless steel (col. 9, lines 20-30). Therefore, the instant claims are anticipated by Gidaspow.

Claim Rejections - 35 USC § 103

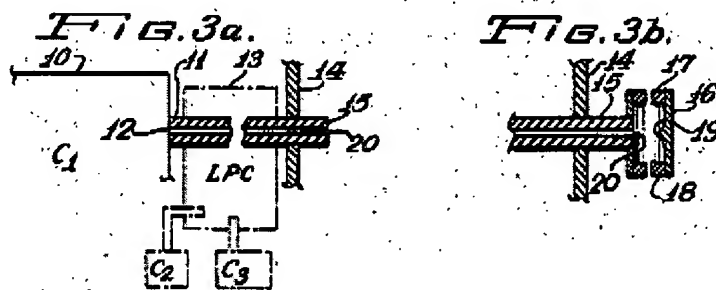
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18, 20-29 & 33-34 & 36-37 are rejected under 35 U.S.C.

103(a) as being obvious over Gidaspow et al. U.S. Patent 3,823,038 in view of Nakanishi et al. U.S. Patent 6,475,655.

With respect to **claims 20, 23 & 28**, the needle is adapted to a housing with a first chamber that contains fuel, and second chamber adapted to receive gaseous fuel, the second chamber by a chamber-separating septum adapted to received the needle. See Figures 3a and 3b.



With respect to **claim 24**, the fuel cell is connected to a load. Figure 3c. With respect to **claims 25-26**, the metal is stainless steel (col. 9, lines

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20-30). With respect to **claims 21 & 36**, the needle enters a fuel cartridge, wherein the first chamber has a inlet pore leading to needle 2. See Figure 1. An inlet pore of the hollow members is received within the second chamber [19]. See figure 36. With respect to **claim 29**, the fuel is hydrogen fuel (col. 4, lines 5-10). With respect to **claims 33 & 34**, the chamber 19 is partially porous and the chamber 19 covers the end of needle [15] guiding hydrogen gas into the fuel cell. See Figure 3b.

Gidaspow does not expressly disclose: a catalyst material coated on the second distal end of the needle (**claims 16, 17**); wherein the catalyst is palladium (**claims 18 & 27**); the catalyst material is inserted in the first chamber (**claims 22 & 37**).

Nakanishi teaches that it is well known in the art to employ a palladium bleed tube to charge hydrogen to a fuel cell (paragraph 15). See Figure 1.

Gidaspow and Nakanishi are analogous art , because they are from the same field of endeavor namely, charging hydrogen to fuel cells through metallic feed tubes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to coat the feed tube of Gidaspow with the palladium bleed tube material of Nakanishi, in order to

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catalyze the electrochemical reaction in the fuel cell (**claims 16-18, 22, 27 & 37**).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19, 35, 38 & 47 are rejected under 35 U.S.C. 103(a) as being obvious over Gidaspow et al. U.S. Patent 3,823,038 in view of Nakanishi et al. U.S. Patent 6,475,655 and further in view of Adams et al. U.S. Pub. 2005/0118468.

Gidaspow in view of Nakanishi teach a catalyst coated needle bleed tube feeding a fuel cell as described in the rejection recited hereinabove. Gidaspow teaches a second chamber with an inlet pore as see Figure 3 (claim 38). With respect to claim 47, the fuel cell contains an electrode and an electrolyte. See Figure 1.

However, Gidaspow does not expressly disclose adapting the fuel cell to recharge a battery (claims 19, 35, 38 & 47).

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Adams teaches that it is well known in the art employ batteries as backup supply power for fuel cells and arranging said fuel cells to recharge the battery backup power (par. 149).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the backup battery supply of Adams in the fuel cell system of Gidaspow in view of Nakanishi, in order to provide pack up power for the fuel cell in order to satisfy electrical load demands.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being obvious over Gidaspow et al. U.S. Patent 3,823,038 in view of Nakanishi et al. U.S. Patent 6,475,655 and further in view of Hockaday U.S. Pub. 2002/0182459.

Gidaspow in view of Nakanishi teach a fuel cell comprising a needed catalyst coated bleed tube as described in the rejection recited hereinabove.

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Hockaday teaches that it is well known in the art to employ hydrogen flue as an aqueous solution of sodium borohydride suspended in foam material. See paragraphs 66-67.

Gidaspow, Nakanishi and Hockaday are analogous art from the same field of endeavor namely supplying hydrogen to fuel cells through the employment of bleed tubes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ sodium borohydride in urethane foam of Hockaday in the fuel cell of Gidaspow in view of Nakanishi, in order to prevent inadvertent hydrogen production in order to protect the environment.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The

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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MW

8/4/07



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER